PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-054900
(43)Date of publication of application : 05.03.1993

(51)Int.Cl. H01M 8/04
H01M 8/10

(21)Application number : 03-217630
(22)Date of filing : 29.08.1991

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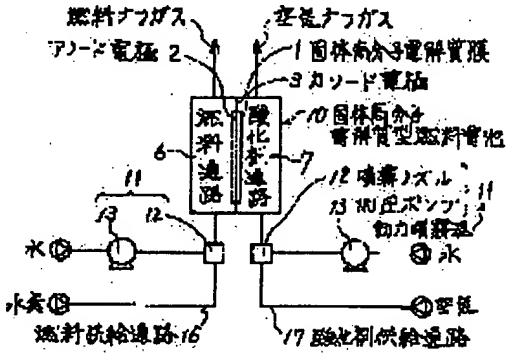
(54) SOLID HIGH POLYMER ELECTROLYTE TYPE FUEL CELL

(57)Abstract:

PURPOSE: To make it easy to control the humidified amount of reaction gas by supplying an oxydant to a cathode electrode and a fuel to an anode electrode to cause power generation, adding fine particles to one of these electrodes in the mentioned cell, and humidifying the reaction gas.

CONSTITUTION: Each of a fuel supply passageway 16 for supplying hydrogen to a fuel passage 6 of the solid high polymer electrolyte type fuel cell, and an oxydant supply passageway 17 for supplying an air to an oxydant passage 7, is provided with a power atomizer 11 as a humidification device for the reaction gas. Atomized particles are injected from an atomization nozzle 12 into the reaction gas, that is, atomized hydrogen is supplied via the passage-way 16 to the passage 6 whereas an air containing atomized water is supplied to the passage 7. These passages 6, 7 each have their temperatures elevated by the power generation reaction heat of the fuel cell, and thus are each kept at a specified temperature. The mentioned air containing atomized water deprives heat of this reaction heat to vaporize, thereby humidifying the reaction gas. If, in this case, a booster pump 13 is controlled in corresponding relation to the output power, an atomizer 11 stably generates atomized particles 19. Thus, the humidified amount of reaction gas can be easily controlled.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]